

March 6, 2006

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit
Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands* – IB Docket No. 02-364

*Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for
Mobile and Fixed Services to Support the Introduction of New Advanced Wireless
Services, including Third Generation Wireless Systems* – ET Docket No. 00-258

Dear Ms. Dortch:

I am writing on behalf of the Wireless Communications Association International, Inc. ("WCA") in response to the February 16, 2006 letter by Axcelis Technologies ("Axcelis") expressing "strong opposition" to "a proposal which would effectively narrow the worldwide industrial, scientific and medical ("ISM") band at 2.4 GHz."¹

Of course, as even a cursory review of the record will reflect, no such proposal is pending before the Commission – *no one is suggesting that the Commission reduce the size of the ISM band at 2.4 GHz*. What is pending before the Commission is a proposal by WCA and others for imposing reasonable limits on emissions by ISM devices operating in the 2496-2500 MHz segment of the ISM band – limits that are necessary to mitigate the harmful interference that Broadband Radio Service ("BRS") channel 1 licensees forced to involuntarily relocate from the 2150-2156 MHz band to the 2496-2502 MHz band will otherwise receive from unlicensed ISM devices in that segment.

By now the Commission knows the crux of the problem: under Section 18.305(a) of the Commission's Rules, there is *no limit whatsoever* on the power levels at which ISM may operate in the 2496-2500 MHz band that ISM must now share with BRS. WCA has put forth a

¹ See Letter from Denis A. Robitaille, Vice President and Chief Patent Counsel, Axcelis Technologies, Inc., IB Docket No. 02-364 and ET Docket No. 00-258, at 1 (filed Feb. 16, 2006) ["Axcelis Letter"].

Marlene H. Dortch

March 6, 2006

Page 2

compromise proposal that is intended to provide at least some interference protection for BRS channel 1 licensees without disrupting use of existing ISM devices already in the field or materially impacting future use of the ISM band. Specifically, WCA has proposed that, after a transition period during which ISM interests could sell existing inventory and modify existing designs (to the extent even necessary) to meet the new rules, the Commission restrict Part 18 ISM operations in the 2496-2500 MHz band to the maximum field strength levels currently set forth in Section 18.305 of the Commission's Rules for emissions above 2500 MHz. In other words, while the Part 18 limits currently apply below 2400 MHz and above 2500 MHz, under WCA's proposal they would apply below 2400 MHz and above 2496 MHz after the transition period.²

According to Axcelis, it makes ISM devices that are used "not only within steel and concrete buildings, but typically within clean room environments sealed deep within the walls of these buildings" and the "microwave-generating devices themselves are typically mounted in shielded enclosures as part of some much larger system."³ As a preliminary matter, it should be noted that Axcelis's industrial ISM devices represent only one small segment of the ISM universe. Axcelis's arguments simply are inapplicable to the interference BRS operations will suffer from the ISM devices that Axcelis does *not* sell, including millions of consumer ISM devices (microwave ovens being the most prominent example) and other non-consumer ISM devices which may operate at unlimited power in close proximity to BRS facilities. As Nokia, Lucent and Motorola have all confirmed for the Commission recently, relocating BRS channel 1 to the 2496-2502 MHz band without adopting the proposed limits on ISM emissions at 2496-2500 MHz is a recipe for disaster.⁴

Certainly, WCA is aware that there are ISM devices that are designed to be installed, and actually are installed, in a highly-shielded manner that effectively minimizes the prospects for interference to BRS. Indeed, WCA has previously indicated to the Commission that "BRS is not

² See, e.g., Letter from Paul J. Sinderbrand, Esq., Counsel for Wireless Communications Ass'n Int'l, Inc., IB Docket No. 02-364, at 4-6 (filed Sept. 9, 2005); Letter from Trey Hanbury, Director, Sprint Nextel Corporation, IB Docket No. 02-364 and ET Docket No. 00-258 (filed Oct. 18, 2005) (discussing similar proposal by Sprint Nextel).

³ Axcelis Letter at 2.

⁴ See Letter from Steve B. Sharkey, Director, Spectrum and Standards Strategy, Motorola, Inc., IB Docket No. 02-364 and ET Docket No. 00-258 (filed Dec. 13, 2005); Letter from Robert B. Hirsch, Standards Development, Lucent Technologies Inc., IB Docket No. 02-364 and ET Docket No. 00-258 (filed Jan. 30, 2006) ("The lack of any emissions limit is especially problematic as ISM devices, particularly microwave ovens, may be located in close physical proximity to BRS customer premises equipment (CPE) receivers operating in the BRS-1 channel and, as a consequence of that proximity, present a serious interference risk."); Letter from Cecily Cohen, Director, Government and Industry Affairs, Nokia, Inc., IB Docket No. 02-364 and ET Docket No. 00-258 (filed Jan. 27, 2006) ("Nokia concurs . . . that the current treatment of industrial, scientific and medical (ISM) equipment, microwave ovens in particular, presents a substantial risk for interference to the Broadband Radio Service (BRS) in 2496-2500 MHz.").

Marlene H. Dortch

March 6, 2006

Page 3

opposed to special treatment of devices that are heavily shielded.”⁵ The problem, in a nutshell, is that the vendors of such equipment have failed to place any technical information in the record that allows WCA to craft a specific proposed rule exempting such devices, and WCA’s efforts to meet with such vendors to discuss the crafting of such a rule have been rebuffed.⁶ In the case of Axcelis’s equipment, the solution may be as simple as to provide that where the emitter is placed within a shielded enclosure that in turn is placed within a larger system, compliance with Section 18.305 (as amended pursuant to WCA’s proposal) will be measured immediately outside that larger system. In any event, WCA reiterates that it stands ready, willing and able to work with Axcelis, other vendors and the Commission to develop a rule that reasonably protects BRS channel 1 operations from ISM interference without imposing unduly burdensome restrictions on ISM devices that are designed to be, and actually are, installed in a heavily shielded manner.

Should there be any questions concerning WCA’s proposal or its willingness to accommodate those who utilize ISM equipment in heavily-shielded environments, please contact the undersigned.

Respectfully submitted,

Paul J. Sinderbrand

Paul J. Sinderbrand

Counsel to the Wireless Communications
Association International, Inc.

cc: Denis A. Robitaille
Hon. Kevin J. Martin
Hon. Michael J. Copps
Hon. Jonathan S. Adelstein
Hon. Deborah Taylor Tate
Fred Campbell

⁵ See Letter from Paul J. Sinderbrand, Esq., Counsel for Wireless Communications Ass’n Int’l, Inc., IB Docket No. 02-364, Attachment 1 at 15 (filed Oct. 19, 2005).

⁶ See *id.* (“BRS is not opposed to special treatment of devices that are heavily shielded, but Fusion UV has refused to meet to discuss specifics.”); Joint Reply of Wireless Communications Ass’n Int’l, Inc., Sprint Corporation and Nextel Communications, Inc., IB Docket No. 02-364 and ET Docket No. 00-258, at 7 (filed Mar. 11, 2005) (“The BRS Parties cannot respond to Fusion’s assertions as to the supposedly limited interference potential of Fusion’s specific product, since Fusion has not supplied any technical data or other factual material that supports its argument.”).

Marlene H. Dortch

March 6, 2006

Page 4

John Giusti

Barry Ohlson

Aaron Goldberger

Julius Knapp

Catherine Seidel

Alan Scrim

Jamison Prime

Ira Keltz

Geraldine Matise

Priya Shrinivasan

Cathleen Massey

Thomas Stanley

Uzoma C. Onyeije

Joel D. Taubenblatt

John Schauble

Peter Trachtenberg

Peter Daronco

Brian Wondrack

David Hu

Henry Allen